

**Helical-scan digital video cassette recording system using 12,65 mm (0,5 in) magnetic tape - Format HD-D5 - Part 3: Data stream format**

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## EESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD

<p>Käesolev Eesti standard EVS-EN 62330-3:2004 sisaldab Euroopa standardi EN 62330-3:2004 ingliskeelset teksti.</p> <p>Käesolev dokument on jõustatud 22.07.2004 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes.</p> <p>Standard on kättesaadav Eesti standardiorganisatsioonist.</p>	<p>This Estonian standard EVS-EN 62330-3:2004 consists of the English text of the European standard EN 62330-3:2004.</p> <p>This document is endorsed on 22.07.2004 with the notification being published in the official publication of the Estonian national standardisation organisation.</p> <p>The standard is available from Estonian standardisation organisation.</p>
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<p><b>Käsitlusala:</b> This part of IEC 62330 defines the data stream used for synchronous transmission of HD-D5 compressed video and audio data over 360 Mb/s serial digital interface (SDI) for the 525/60 system as defined in SMPTE 259M. This practice does not define data stream structure applicable for transmission over the serial data transport interface (SDTI), SMPTE 305M.</p>	<p><b>Scope:</b> This part of IEC 62330 defines the data stream used for synchronous transmission of HD-D5 compressed video and audio data over 360 Mb/s serial digital interface (SDI) for the 525/60 system as defined in SMPTE 259M. This practice does not define data stream structure applicable for transmission over the serial data transport interface (SDTI), SMPTE 305M.</p>
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**ICS** 33.160.40, 35.240.99

**Võtmesõnad:**

English version

**Helical-scan digital video cassette recording system  
using 12,65 mm (0,5 in) magnetic tape -  
Format HD-D5  
Part 3: Data stream format  
(IEC 62330-3:2003)**

Système de magnétoscope numérique  
à cassette à balayage hélicoïdal sur  
bande magnétique de 12,65 mm (0,5 in) -  
Format HD-D5  
Partie 3: Format de flux de données  
(CEI 62330-3:2003)

Videokassettenystem mit  
Schrägspuraufzeichnung auf Magnetband  
12,65 mm (0,5 in) -  
HD-D5-Format  
Teil 3: Datenstromformat  
(IEC 62330-3:2003)

This European Standard was approved by CENELEC on 2004-03-01. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CENELEC member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CENELEC member into its own language and notified to the Central Secretariat has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

## CENELEC

European Committee for Electrotechnical Standardization  
Comité Européen de Normalisation Electrotechnique  
Europäisches Komitee für Elektrotechnische Normung

**Central Secretariat: rue de Stassart 35, B - 1050 Brussels**

## Foreword

The text of the International Standard IEC 62330-3:2003, prepared by Technical Area 6: Higher data rate storage media and equipment, of IEC TC 100, Audio, video and multimedia systems and equipment, was submitted to the formal vote and was approved by CENELEC as EN 62330-3 on 2004-03-01 without any modification.

The following dates were fixed:

- latest date by which the EN has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2005-03-01
- latest date by which the national standards conflicting with the EN have to be withdrawn (dow) 2007-03-01

Annex ZA has been added by CENELEC.

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## Endorsement notice

The text of the International Standard IEC 62330-3:2003 was approved by CENELEC as a European Standard without any modification.

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## Annex ZA (normative)

### Normative references to international publications with their corresponding European publications

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

NOTE When an international publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
SMPTE 259M	- <sup>1)</sup>	Television - 10-Bit 4:2:2 Component and 4fsc Composite Digital Signals - Serial Digital Interface	-	-
SMPTE 272M	- <sup>1)</sup>	Television - Formatting AES/EBU Audio and Auxiliary Data into Digital Video Ancillary Data Space	-	-

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<sup>1)</sup> Undated reference.

# INTERNATIONAL STANDARD

# IEC 62330-3

First edition  
2003-05

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## Helical-scan digital video cassette recording system using 12,65 mm (0,5 in) magnetic tape – Format HD-D5 –

### Part 3: Data stream format

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## INTERNATIONAL ELECTROTECHNICAL COMMISSION

## HELICAL-SCAN DIGITAL VIDEO CASSETTE RECORDING SYSTEM USING 12,65 mm (0,5 in) MAGNETIC TAPE – FORMAT HD-D5 –

### Part 3: Data stream format

#### FOREWORD

- 1) The IEC (International Electrotechnical Commission) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of the IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, the IEC publishes International Standards. Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. The IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
- 2) The formal decisions or agreements of the IEC on technical matters express, as nearly as possible, an international consensus of opinion on the relevant subjects since each technical committee has representation from all interested National Committees.
- 3) The documents produced have the form of recommendations for international use and are published in the form of standards, technical specifications, technical reports or guides and they are accepted by the National Committees in that sense.
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- 6) Attention is drawn to the possibility that some of the elements of this International Standard may be the subject of patent rights. The IEC shall not be held responsible for identifying any or all such patent rights.

International Standard IEC 62330 has been prepared by Technical Area 6: Higher data rate storage media and equipment of IEC technical committee 100: Audio, video and multimedia systems and equipment.

It was submitted to the national committees for voting under the Fast Track Procedure as the following documents:

CDV	Report on voting
100/506/CDV	100/605/RVC

Full information on the voting for the approval of this standard can be found in the report on voting indicated in the above table.

This publication has been drafted in accordance with the ISO/IEC Directives, Part 2.

The committee has decided that the contents of this publication will remain unchanged until 2008. At this date, the publication will be

- reconfirmed;
- withdrawn;
- replaced by a revised edition, or
- amended.



IEC 62330-3 consists of the following parts, under the general title *Helical-scan digital video cassette recording system using 12,65 mm (0,5 in) magnetic tape – Format HD-D5*.

- Part 1: VTR specifications
- Part 2: Compression format
- Part 3: Data stream format

Part 1 describes the VTR specifications which are tape, magnetization, helical recording, modulation method and basic system data for high definition video compressed data on 29,97 or 59,94 frame rate.

Part 2 describes the specifications for encoding process and data format for 1080i and 720p systems.

This part 3 describes the specifications for transmission of HD-D5 compressed video and audio data stream over 360 Mb/s serial digital interface.

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# HELICAL-SCAN DIGITAL VIDEO CASSETTE RECORDING SYSTEM USING 12,65 mm (0,5 in) MAGNETIC TAPE – FORMAT HD-D5 –

## Part 3: Data stream format

### 1 Scope

This part of IEC 62330 defines the data stream used for synchronous transmission of HD-D5 compressed video and audio data over 360 Mb/s serial digital interface (SDI) for the 525/60 system as defined in SMPTE 259M.

This practice does not define data stream structure applicable for transmission over the serial data transport interface (SDTI), SMPTE 305M.

### 2 Normative references

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ANSI/SMPTE 259M, *Television – 10-bit 4:2:2 Component and 4fsc NTSC Composite Digital Signals – Serial Digital Interface*

ANSI/SMPTE 272M, *Television – Formatting AES/EBU Audio and Auxiliary Data into Digital Video Ancillary Data Space*

### 3 DIF block mapping

HD-D5 compressed digital video data, assembled as a DIF block stream, are mapped onto an SDI video field for transmission.

#### 3.1 DIF block and DIF slice

One field of 1 080/60i, or one frame of 720/60p compressed video is represented by 5 760 DIF Blocks defined in Part 2 as shown in Figure 1.



Figure 1 – DIF block

5 760 DIF blocks are divided into 480 DIF slices, each DIF slice comprising of 12 DIF blocks. DIF blocks in one field (1 080i), or one frame (720p) of video are numbered from 0 through 5 759. Likewise, DIF slices are numbered from 0 through 479.